

f1

- (a) being phenotypically Pts-/glu+ wherein the Pts- phenotype is caused by the deletion or inactivation of all or substantially all of a gene selected from the group consisting of *ptsI*, *ptsH* and *crr*;
- (b) requiring galactose permease activity to transport glucose; and
- (c) having a specific growth rate on glucose as a sole carbon source of at least 0.4h^{-1} .

f2

27. (Amended) A method for increasing PEP availability to a biosynthetic or metabolic pathway of a host cell, the method comprising,

a) obtaining a host cell mutant characterized by having a Pts-/glu+ phenotype requiring galactose permease activity to transport glucose; and having a specific growth rate on glucose as a sole carbon source of at least 0.4h^{-1} wherein the Pts- phenotype is caused by the deletion or inactivation of all or substantially all of one of the genes selected from the group consisting of *ptsI*, *ptsH* and *crr*; and

b) culturing the host cell mutant in the presence of an appropriate carbon source, wherein said host cell mutant utilizes PEP as a precursor or intermediate of metabolism.

f3

29. (Amended) The method of Claim 27 further comprising modifying the host cell mutant to introduce therein recombinant DNA coding one or more of the enzymes selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase such that the mutant host cell expresses transketolase, transaldolase or phosphoenolpyruvate synthase at enhanced levels relative to wild-type host cells.

30. (Amended) The method of Claim 27 further comprising modifying the host cell mutant to reduce or eliminate pyruvate kinase activity in said host cell.

f4

38. (Amended) A method for obtaining a Pts- /Glucose⁺, galactose permease requiring-mutant cell, the method comprising:

- (a) selecting a host cell which utilizes a phosphotransferase transport system;
- (b) mutating the host cell whereby the phosphotransferase transport system is inactivated;
- (c) culturing the mutant host cell under continuous culture conditions using glucose as a carbon source; and

(d) selecting mutant host cells which grow on glucose at a specific growth rate of at least 0.4h^{-1} .

39. (Amended) A method for obtaining a Pts- /Glucose⁺, galactose permease requiring-mutant cell, the method comprising:

- (a) selecting a host cell which utilizes a phosphotransferase transport system;
- (b) mutating the host cell whereby the phosphotransferase transport system is inactivated;
- (c) culturing the mutant host cell using glucose as a carbon source; and
- (d) selecting mutant host cells having a specific growth rate on glucose of about 0.8h^{-1} .

40. (Amended) A mutant host cell having a metabolic pathway which uses PEP as a precursor or intermediate of metabolism, said host cell characterized by:

- (a) being phenotypically Pts- /Glu⁺;
- (b) requiring galactose permease activity to transport glucose; and
- (c) having a specific growth rate on glucose as a sole carbon source of about 0.8h^{-1} .

42. (Amended) A method for enhancing production of a desired compound in a modified host cell, said host cell in its unmodified form being capable of utilizing a phosphotransferase transport system for carbohydrate transport, the method comprising,

- (a) obtaining a modified host cell, wherein said modified host cell is characterized by having
 - (i) a Pts-/glu⁺ phenotype;
 - (ii) requiring galactose permease activity to transport glucose;
 - (iii) having a specific growth rate on glucose as a sole carbon source of at least about 0.4h^{-1} ; and
 - (iv) utilizing PEP as a precursor or intermediate of metabolism, said modified host cell further comprising recombinant DNA encoding one or more enzyme(s) catalyzing reactions in the pathway of biosynthetic production of said desired compound in said modified host cell; and
- (b) culturing the modified host cell with an appropriate carbon source whereby the production of a desired compound in the modified host cell is enhanced

compared to the production of said desired compound in the unmodified host cell.

43. (Amended) A method for enhancing production of a desired compound in a modified host cell, said host cell in its unmodified form being capable of utilizing a phosphotransferase transport system for carbohydrate transport, the method comprising,

(a) obtaining a modified host cell, said modified host cell characterized by having

- (i) a Pts-/glu⁺ phenotype;
- (ii) requiring galactose permease activity to transport glucose;
- (iii) a specific growth rate on glucose as a sole carbon source of about 0.8h⁻¹ and
- (iv) utilizing PEP as a precursor or intermediate of metabolism, said modified host cell further comprising recombinant DNA encoding one or more enzymes catalyzing reactions in the pathway of biosynthetic production of said desired compound in said modified host cell and

(b) culturing the modified host cell with an appropriate carbon source whereby the production of a desired compound in the modified host cell is enhanced compared to the production of said desired compound in the unmodified host cell.

*33
Cont*

Please add the following new claims.

47. The mutant host cell of Claim 40 further comprising mutations in the genes selected from the group consisting of *pykA* and *pykF*.

48. The mutant host cell of Claim 40 further comprising recombinant DNA coding for one or more of the enzymes selected from the group consisting of transketolase, transaldolase, and phosphoenolpyruvate synthase wherein the mutant host cell expresses transketolase, transaldolase or phosphoenolpyruvate synthase at enhanced levels relative to wild-type host cells.

*34
Mutant*

49. The method of Claim 38, wherein the selected mutant host cell has a specific growth rate of at least 50% of the host cell of step a).

50. The method of Claim 42 further comprising recovering said desired compound. *w/1*

51. The method of Claim 43 further comprising recovering said desired compound. *ac*